

## **REMARKS**

Entry of the foregoing and further and favorable reconsideration of the subject application are respectfully requested, in light of the following remarks pursuant to and consistent with 37 C.F.R. §1.112.

By the foregoing amendment, claims 7 and 16 have been cancelled without prejudice or disclaimer of the subject matter disclosed therein. Claims 1-6 and 8-15 have been amended to further clarify Applicants' invention and new claims 17-20 have been added. No new matter has been added.

Commonly owned U.S. Application Serial No. 09/141,781 (now abandoned) is a related application.

### **I. Rejections Under 35 U.S.C. §§ 112 and 101**

Claims 1-11, 13-14 and 16 have been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

This rejection is rendered moot in light of the amendments to the claims. Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1-11, 13-14 and 16 under 35 U.S.C. §§ 112, second paragraph, and 101.

### **II. Rejections Under 35 U.S.C. § 102**

Claims 1 and 2 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Japanese Patent Abstract 04099771. Applicants respectfully traverse this rejection.

The present invention relates to a compositions comprising ascorbic acid or ascorbate or its derivatives in combination with one or more derivatives of quercetin. Ascorbic acid is active as long as it is maintained in a reduced form, while isoquercetin is active as long as it is maintained in an oxidized form. Ascorbic acid has the ability to maintain isoquercetin in its oxidized form and isoquercetin has the ability to maintain ascorbic acid in its reduced form, thus forming a redox system. In addition, the two compounds work synergistically to enhance the physiological properties of both ascorbic acid and isoquercetin and to maintain the biological effectiveness of both compounds.

Japanese Patent Abstract 04099771 relates to drug, cosmetic or food, etc.

combinations in which ascorbic acid or its derivatives are mixed with flavonoid glycoside to inhibit browning of the ascorbic acid. This abstract does not teach each and every element of the claimed invention. Specifically, this reference does not teach that the molar ratio of ascorbic acid (or ascorbate or a derivative thereof) to quercetin glucoside of 2:1 to 1:2 present in the composition is such that the biological effectiveness of both compounds is maintained. Therefore, claims 1 and 2 are not anticipated by Japanese Patent Abstract 04099771.

Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1 and 2 under 35 U.S.C. § 102.

Claims 1-6 and 12 have been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Japanese Patent Abstract 7196523. Applicants respectfully traverse this rejection.

Japanese Patent Abstract 7196523 relates to a solution of a glycoside of quercetin, a bivalent metallic ion, an extract of Glycyrrhizae Radix and vitamin C. This abstract does not teach or suggest the claimed molar ratio range from 2:1 to 1:2 or that the amounts of ascorbic acid and quercetin glucoside present in the composition are such that the biological effectiveness of both compounds is maintained. Therefore, claims 1-6 are not anticipated by Japanese Patent Abstract 7196523.

Regarding claim 12, the Examiner has stated that the cited abstract teaches the use of the claimed flavonoid glycosides in combination with vitamin C and ions for promoting the metabolic function of the body. Assuming, *arguendo*, that the Examiner's statement is correct, this still does not suggest or teach the claimed invention as discussed above.

Accordingly, Applicants respectfully request withdrawal of the rejection of claims 1-6 under 35 U.S.C. § 102.

Claim 15 has been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Japanese Patent Abstract 6199690. Applicants respectfully traverse this rejection.

Japanese Patent Abstract 6199690 relates to a composition of a substance having superoxide dismutase (SOD)-like activity and/or antioxidation activity, a phenolic compound, a glycoprotein, and a sugar compound. This abstract too does not teach or suggest the specific combination of ascorbic acid and one or more quercetin glucosides. Furthermore, this abstract does not teach that the molar ratio of these two compounds ranges from 2:1 to 1:2 or that the amounts of ascorbic acid and quercetin glucoside present in the

composition are such that the biological effectiveness of both compounds is maintained. Therefore, claim 15 is not anticipated by Japanese Patent Abstract 6199690.

Accordingly, Applicants respectfully request withdrawal of the rejection of claim 15 under 35 U.S.C. § 102.

Claim 14 has been rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Vrijesen et al. Applicants respectfully traverse this rejection.

Claim 14 is drawn to a method of preventing various conditions by administering a composition of claim 1.

The Examiner has stated that Vrijesen et al. teaches the use of the claimed flavonoid glycosides in combination with ascorbic acid for the treatment of a viral infection. However, this reference does not teach or suggest the claimed invention. Specifically, this reference does not teach a molar ratio of ascorbic acid (or ascorbate or a derivative thereof) to quercetin glucoside ranges from 2:1 to 1:2 or that the amounts of ascorbic acid and quercetin glucoside present in the composition are such that the biological effectiveness of both compounds is maintained. Therefore, claim 14 is not anticipated by Vrijesen et al.

Accordingly, Applicants respectfully request withdrawal of the rejection of claim 14 under 35 U.S.C. § 102.

### **III. Rejections Under 35 U.S.C. § 103**

Claims 7-10 have been rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Japanese Patent Abstract 04099771. Applicants respectfully traverse this rejection.

Japanese Patent Abstract 04099771 relates to drug, cosmetic or food, etc. combinations in which ascorbic acid or its derivatives are mixed with flavonoid glycoside to inhibit browning of the ascorbic acid.

To render a claim obvious, the cited reference must teach, *inter alia*, each and every element of the claimed invention. In other words, Japanese Patent Abstract 04099771 must teach the specific combination of ascorbic acid and one or more quercetin glucosides. Furthermore, this abstract must teach that the molar ratio of these two compounds ranges from 2:1 to 1:2 and that the amounts of ascorbic acid and quercetin glucoside present in the composition are such that the biological effectiveness of both compounds is maintained. The

cited reference does not teach these elements as established above. Thus, this reference cannot render the claimed invention obvious.

Accordingly, Applicants respectfully request withdrawal of the rejection of claims 7-10 under 35 U.S.C. § 103.

From the foregoing, favorable action in the form of a Notice of Allowance is respectfully requested and such action is earnestly solicited.

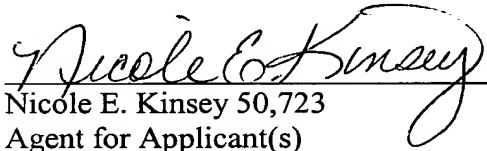
In the event that there are any questions relating to this application, it would be appreciated if the Examiner would telephone the undersigned attorney or agent concerning such questions so that prosecution of this application may be expedited.

The Commissioner is hereby authorized to charge any fees associated with this response or credit any overpayment to Deposit Account No. 13-3402.

Respectfully submitted,



Anthony J. Zelano Reg. No. 27,969  
Attorney for Applicant(s)



Nicole E. Kinsey 50,723  
Agent for Applicant(s)

MILLEN, WHITE, ZELANO  
& BRANIGAN, P.C.  
Arlington Courthouse Plaza 1, Suite 1400  
2200 Clarendon Boulevard  
Arlington, Virginia 22201  
Telephone: (703) 243-6333  
Facsimile: (703) 243-6410

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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

1. (Amended) [Orally applicable] A composition [containing] comprising (a) ascorbic acid, [or] ascorbate or [its] a derivative thereof, in combination with (b) one or more [derivatives of quercetin elected from the group] of quercetin-3-O-glucoside (isoquercetin), quercetin-4'-glucoside, quercetin-3'-glucoside, [and] or quercetin-7-glucoside, in a molar ratio of from about 2:1 to about 1:2, the amounts being sufficient that the periods of biological activity of (a) and (b) are longer than the periods of biological effectiveness of (a) administered without (b) and of (b) administered without (a).
2. (Amended) [Composition] A composition according to claim 1 [containing] comprising isoquercetin in combination with ascorbic acid or [of] a physiologically active ascorbate in the form of [of] its sodium, calcium, or other mineral or organic [salts] salt.
3. (Amended) [Composition] A composition according to claim 1 [containing] comprising a combination of isoquercetin and ascorbic acid or a [their] mineral or organic [salts] salt thereof [and additionally other ingredients].
4. (Amended) [Composition] A composition according to claim [3] 1 further comprising a [wherein other ingredients are vitamins] vitamin.
5. (Amended) [Composition] A composition according to claim 1 [wherin other ingredients are suitable salts of] further comprising a Mg, Ca, K, [and] or Fe salt.
6. (Amended) [Composition] A composition according to claim 1 [wherin other ingredients are trace elements] further comprising a trace element.
8. (Amended) [Composition] A composition according to claim 1 [containing] comprising ascorbic acid or ascorbate and isoquercetin in a molar ratio [in the range] of about 1:1.

9. (Amended) [Compositions] A composition according to claim 1 [containing] comprising 30-4000 mg of ascorbic acid or ascorbate in a daily dose[, preferably 150-1000 mg].
10. (Amended) [Compositions] A composition according to claim 1 [containing] comprising 1500-3000 mg of ascorbic acid or ascorbate in a daily dose.
11. (Amended) [Use of compositions according to claim 1 as a food supplement] A food supplement comprising a composition according to claim 1.
12. (Amended) [Method] A method of maintaining long biological activity and high concentration of ascorbate and isoquercetin in a human [organs, especially skin, tissues and cells by] comprising orally [administration of] administering a composition according to claim 1.
13. (Amended) [Method] A method of protection against oxidative [damages] damage of [organs, including skin, tissues and cells by] a human organ, skin, tissue or cell comprising orally [administration of] administering a composition according to claim 1.
14. (Amended) [Method] A method of prevention of arteriosclerosis, cardiovascular [diseases] disease, an allergic [and] or inflammatory [disorders] disorder, a bacterial [and] or viral [infections] infection, a metabolic [dysfunctions, e.g. premature ageing, and of] dysfunction or other pathologic [conditions] condition involving oxidative [damages by] damage comprising orally [administration of compositions] administering a composition according to claim 1.
15. (Amended) [Method] A method of supporting a pharmacological [treatments of diseases and dysfunctions] treatment of a disease or dysfunction caused by oxidative [damages by] damage comprising orally [administration of] administering a [compositions] composition according to claim 1.